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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
FAULK, DEVONA E	

ART UNIT	PAPER NUMBER
2644	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/362,941	KAMIYA ET AL.	
	Examiner	Art Unit	
	Devona E. Faulk	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-20* is/are pending in the application.

4a) Of the above claim(s) *3* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,5,7,8,10-16,18-20* is/are rejected.

7)☐ Claim(s) *4,6,9 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 10/1/2004, with respect to the rejection(s)of claim(s) 1-8, and 11-18 under 102(b) and 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Suzuki.

2. Claim 3 has been cancelled.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 14-15** are rejected under 35 U.S.C. 102(b) as being anticipated by Suzuki (EP 0 750 290).

Regarding claim 14 Suzuki discloses

a machine-readable medium (ROM, page 5, lines 44-48) containing a group of instructions of a program for execution by a processor for collectively receiving, from a storage device storing wavefrom sample data sampled at a given sampling rate, a given number of the waveform sample sample data for a plurality of channels asynchronously with the given sampling rate and

generating tone data on the basis of the waveform sample data received from said storage device, an input buffer for storing the waveform sample data for each of the channels collectively received from said storage device, an input buffer for storing the waveform sample data for each of the channels collectively received from said storage device and an output buffer being connected to said processor page 6, lines 50-59) said program comprising

a first step of collectively reading out, for each of the channels, a given number of the waveform sample data stored in said input buffer and converting, for each of the channels, the sampling rate of the read-out waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates, (24, Figure 22; page 15, lines 16-19; page 17, lines, lines 45-52;

a second step of performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate (40; Figure 23; page 16, lines 13-24);

a third step of converting, for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate (43, Figure 23;page 16, lines 25-32) and a fourth step of writing, into said output buffer, the waveform sample data converted to the predetermined output sampling rate (43, Figure

23;page 16, lines 25-32; page 17, lines 42-52); The method is inherently present in the functionality of the device.

All elements of **claim 15** are comprehended by claim 14 (See rejection of claim 14 above) (page 7, lines 22-35) (page 12, lines 22-29).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 1,2,5,7-8,11-16 and 18-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (EP 0 750 290) in view of Yamada (U.S. Patent 5,481,065).

Claims 1,12,16,18 share common elements and/or common functionalities. Although, the claim language is not recited exactly the same, the elements and functionality are the same.

Regarding claims 1,12,16 and 18 Suzuki discloses a electronic music instrument having a tone generator

a computer system (Figure 1) having a RAM and ROM;

a machine-readable medium (ROM, page 6, lines 1-10);

a central processing unit (CPU, Figure 1;page 5, lines 44-51);

a tone data processing device capable of collectively receiving, from a storage device storing waveform sample data sampled at a given sampling rate, a given number of the waveform sample data for a plurality of channels asynchronously with the given sampling rate and generating tone data on the basis of the waveform sample data received from said storage device (page 6, lines 50-59), said tone data processing device being connectable to a central processing unit and said storage device via a bus of the central processing unit said tone data processing device (page 6, line 44-page 7, line 15; page 9, lines 27-51);

an input buffer (23, Figure 22) for storing the waveform data sample data for each of the channels collectively received from said storage device via said bus;

an output buffer (43,Figure 23) (By virtue of the input rates being different from fixed reproduction rates, buffering is inherent);

a processor connected with said input buffer and said output buffer and adapted to execute a first process for collectively reading out, for each of the channels, a given number of the waveform sample data stored in said input buffer and converting, for each of the channels, the sampling rate of the read-out waveform sample data to an inner sampling rate selected for each of the channels from among a plurality of predetermined inner sampling rates (24, Figure 22; page 15, lines 16-19, lines 39-44; page 17, lines, lines 45-52, lines 56-59)

(the claimed receiving section of claim 16; and a step of collectively receiving of claim 18);

a second process for performing, for each of the channels, predetermined arithmetic processing on the waveform sample data converted to the selected inner sampling rate (40; Figure 23; page 16, lines 13-24) **(arithmetic processing section of claim 16; and a step of converting of claim 18);**

a third process for converting (interpolating), for each of the channels, the waveform sample data having undergone the predetermined arithmetic processing to a predetermined output sampling rate (function of 43, Figure 23;page 16, lines 25-32) and a fourth process for writing, into said output buffer B0, the waveform sample data converted to the predetermined output sampling rate (function of 43, Figure 23;page 16, lines 25-32; page 17, lines 42-52) **(a second sampling rate conversion section of claim 16; and a step of converting of claim 18)**. The method is inherently present in the functionality of the device.

Suzuki fails to disclose a tone generator having DSP separate from the CPU but this concept was well known in the art at the time of filing as taught by Yamada.

Yamada discloses a tone generator having DSP separate from the CPU (column 4, line 53-66);

Regarding **claims 16 and 18**, Suzuki additionally teaches of adding waveform sample data and outputting the added waveform sample data (page 7, lines 22-35).

Thus it would have been obvious to use Yamada's concept of having a separate tone data processor including a DSP in order to have a processor dedicated so that the CPU would not have to run programs in parallel.

All elements of **claims 2,5,7,8-11** are comprehended by claim 1 (See Rejection above) (page 7, lines 22-35) (page 12, lines 22-29) (Figure 23).

All elements of **claims 13 and 19** are comprehended by claim 12 (See rejection above) (page 7, lines 22-35) (page 12, lines 22-29)(Figure 23).

All elements of claim 20 are comprehended by claim 14 (See rejection of claim 14 above) (page 7, lines 22-35) (page 12, lines 22-29).

Claim Objections

7. **Claims 4,6,9,17** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 703-305-4359. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 703-305-4040. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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SUPERVISORY PATENT EXAMINER